SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

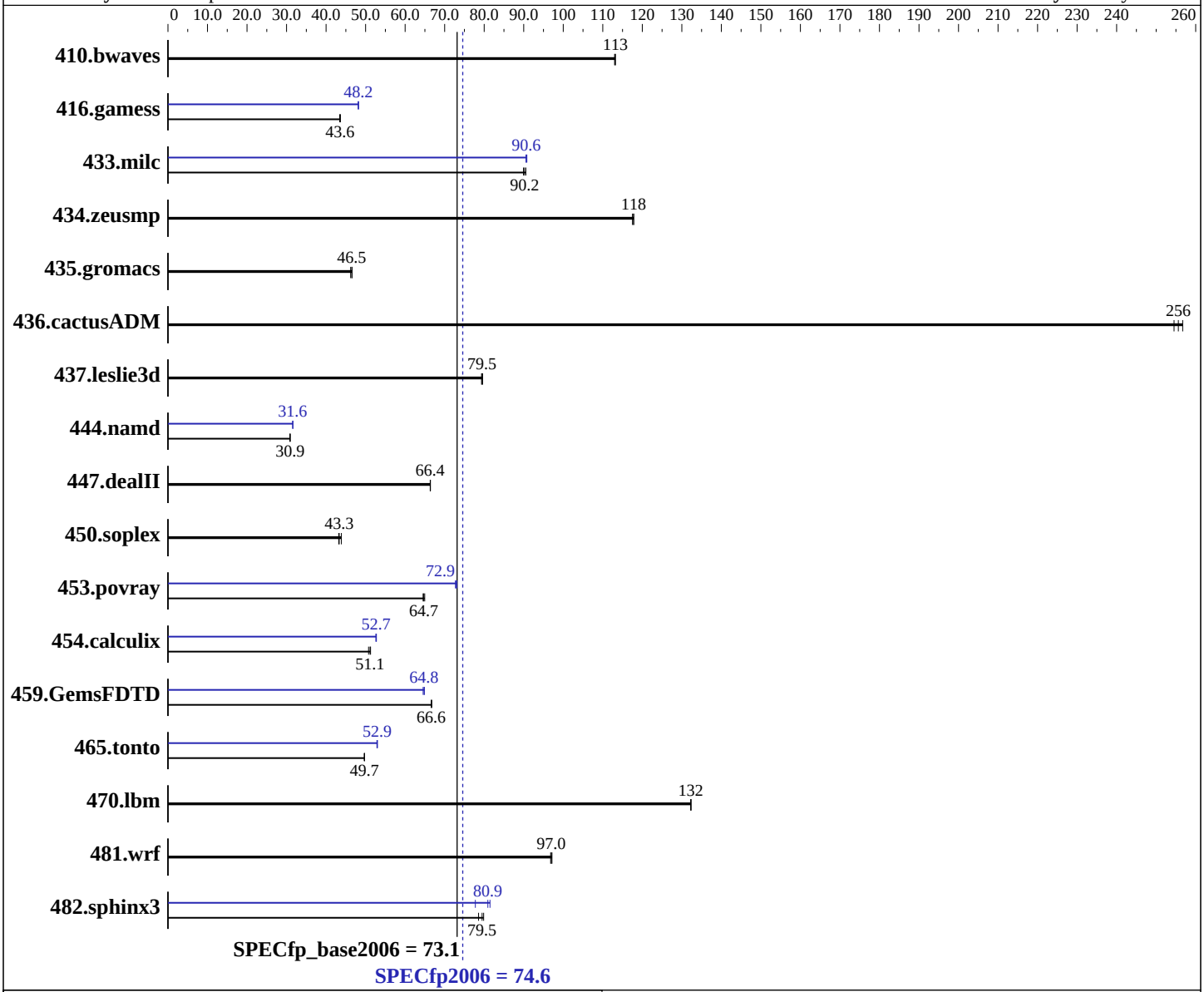
SuperServer 5038AD-T (C7Z87-OCE, Intel Core i7-4770, 3.40 GHz)

SPECfp®2006 = 74.6

SPECfp_base2006 = 73.1

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jun-2013
Hardware Availability: Jun-2013
Software Availability: May-2013



Hardware

CPU Name:	Intel Core i7-4770
CPU Characteristics:	Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.el6.x86_64
Compiler:	C/C++: Version 13.1.1.163 of Intel C++ Studio XE for Linux; Fortran: Version 13.1.1.163 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 5038AD-T (C7Z87-OCE, Intel Core i7-4770, 3.40 GHz)

SPECfp2006 = 74.6

SPECfp_base2006 = 73.1

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jun-2013
Hardware Availability: Jun-2013
Software Availability: May-2013

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx4 PC3-12800U-11)
Disk Subsystem: 1 x 300 GB SATA II, 10000 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	120	113	**120**	**113**	120	113	120	113	**120**	**113**	120	113
416.gamess	449	43.6	451	43.5	**449**	**43.6**	**406**	**48.2**	407	48.2	406	48.2
433.milc	101	90.5	102	89.9	**102**	**90.2**	101	90.8	**101**	**90.6**	101	90.6
434.zeusmp	77.2	118	**77.2**	**118**	77.4	118	77.2	118	**77.2**	**118**	77.4	118
435.gromacs	155	46.2	153	46.6	**154**	**46.5**	155	46.2	153	46.6	**154**	**46.5**
436.cactusADM	46.5	257	**46.8**	**256**	46.9	255	46.5	257	**46.8**	**256**	46.9	255
437.leslie3d	118	79.6	**118**	**79.5**	118	79.3	118	79.6	**118**	**79.5**	118	79.3
444.namd	259	30.9	260	30.9	**260**	**30.9**	254	31.6	254	31.6	**254**	**31.6**
447.dealII	172	66.4	172	66.4	**172**	**66.4**	172	66.4	172	66.4	**172**	**66.4**
450.soplex	**192**	**43.3**	193	43.2	190	43.9	**192**	**43.3**	193	43.2	190	43.9
453.povray	82.4	64.5	**82.2**	**64.7**	81.9	65.0	**73.0**	**72.9**	72.8	73.1	73.1	72.7
454.calculix	**161**	**51.1**	161	51.3	163	50.7	**157**	**52.7**	156	52.7	157	52.6
459.GemsFDTD	159	66.7	159	66.6	**159**	**66.6**	164	64.9	164	64.6	**164**	**64.8**
465.tonto	198	49.7	**198**	**49.7**	198	49.7	**186**	**52.9**	186	53.0	186	52.9
470.lbm	104	132	104	132	**104**	**132**	104	132	104	132	**104**	**132**
481.wrf	**115**	**97.0**	115	96.8	115	97.1	**115**	**97.0**	115	96.8	115	97.1
482.sphinx3	244	79.9	248	78.6	**245**	**79.5**	**241**	**80.9**	251	77.8	239	81.5

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
OMP_NUM_THREADS = "4"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias
```

Fortran benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

Peak Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -opt-prefetch -parallel

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.html
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 16:41:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 July 2013.